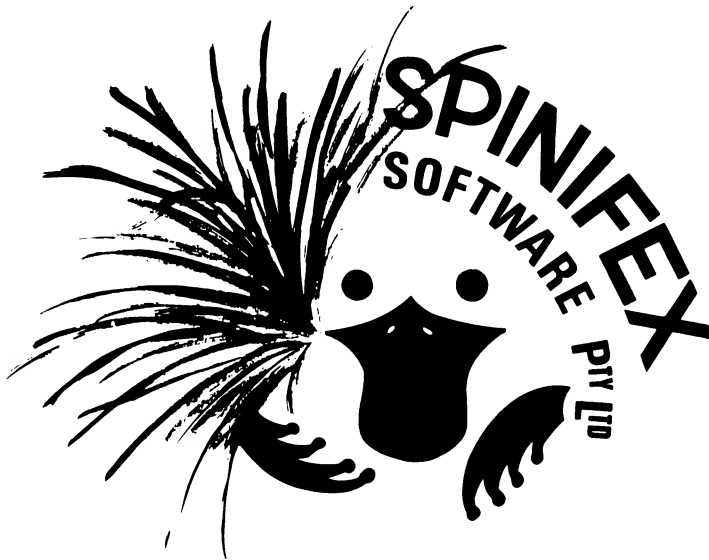


ADDITION

MADE EASY



PARENT/TEACHER GUIDE

A Spinifex THOUGHT FLOW TUTORIAL Product.



SPINIFEX Software Pty.Limited

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1. Introduction

ADDITION-Made Easy
is
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This program package is the first stage in the **SPINIFEX SOFTWARE THOUGHT FLOW** tutorial range of primary school Integer Arithmetic Software.

	ADDITION	SUBTRACTION	MULTIPLICATION	DIVISION
<i>Year 1</i>				
<i>Year 2</i>				
<i>Year 3</i>	COMPLETE			
<i>Year 4</i>		complete		
<i>Year 5</i>			complete	
<i>Year 6</i>				complete

This version of the package is for the APPLE][+ or][e*

- The level of concepts and language used has been carefully designed for Lower Primary (Years 3 and 4) and Upper Infants (Year2), that is approximately 7 - 10 years of age.
- This package addresses the problem of developing confidence in the application of the addition process. The aim is to show that even the most complex addition problem can be completed by the step by step application of simple operations.
- **SPINIFEX Software** sees in this package the opportunity to introduce some important concepts which can form the basis of a later introduction to computer programming concepts, including the concept of an algorithm. By using the step by step approach, the program helps the students to think in 'mind-sized' bites (Piaget), thus guiding them towards a more fruitful insight into their own thinking abilities.
- **SPINIFEX Software** believes this product to be technically superior in its educational design, its execution characteristics, its range of application, its teacher management system, its user friendliness and its ease of use and manipulation by teachers and students without a background in computer use.
- The **ADDITION-Made Easy** package is not designed to introduce the concept of addition. The introduction of this concept and the layout and steps required in the process must first be handled by the teacher. This program allows the students to use the same natural layout and sequences as they see in their

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text books and on the board, and as they use in their exercise books.

- The addition package provides the opportunity for students to examine (via automatic **STEPTHROUGH**) or practise (via **PRACTICE**) a set of addition problems prepared individually for each student by the teacher. Only when fully confident of successfully completing all the problems in a set, will the student try a **TEST** .
- **This package:**
 - has infinite patience
 - enables teachers to select appropriate exercises based on individual needs
 - enables the teacher to cater for students at an individual, group, or class level
 - conforms to the latest research incorporating such areas as schedules of reinforcement, memory capacity, and stages of cognitive development
 - contains suggestions for teachers for integrating this program with classroom activities
 - contains a Parent/Teacher management System which has been designed for ease of use. If it were cumbersome and difficult for teachers to operate, one of the primary purposes of the System would then be defeated - that is, to alleviate the teacher of time consuming tasks when individualising instruction
 - enables the student to have complete control over the pace of the program
 - provides positive reinforcement
 - provides instant feedback and help when the answer is incorrect
 - has a sophisticated answer analysis and response system
 - has inbuilt safeguards against students 'crashing' the program by typing erroneous inputs
 - does not put unnecessary stress on students by forcing them to compete against the clock or each other
 - has been designed in the belief that students should be exposed to the Language of Mathematics in order to provide them with a more complete understanding of the Mathematics curriculum
- To ensure durability, the Student's documentation has been printed on heavy duty card and laminated. The folder itself has been designed for both ease of access and storage.

- **ADDITION-Made Easy** has been designed and developed through a close association between experienced professional Teachers and Computer Scientists in consultation with Academic Staff members of the University of Wollongong. We wish to thank those Schools, teachers and children who contributed to the ongoing development of the program by trialling, evaluating and suggesting improvements at each developmental stage.

2. ASSUMED KNOWLEDGE

In order to run this program, your students will need to know the following terms:

ADDEND

the number which you are adding

SUM

the total given when one **ADDEND** is added to another **ADDEND**

DIGIT

a single numeral

RIGHT HAND

the digit on the right

CARRY

that digit which you are moving into the next column

COLUMN

a vertical line of digits

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3. Teacher Management of the Package

3.1 Setting up a file of problems

Once the teacher's disk program is loaded into the computer, you will see a title page and then a menu of *options* available to you.

You have twelve categories of addition problems for which the computer will automatically generate a set of examples.

The complexity of the problems ranges from randomly generated one digit addend, through to four digit addend problems. Your task is to establish a file of problems for each student or group of students. You establish a file by using either of two methods.

3.1.1 Method A - Computer generated problems (option 13)

1. Type 13 and press **RETURN** .
2. Type your selection, 1 - 12 and press **RETURN** .
3. Type in the number of problems you wish created. You are allowed a maximum of 10 problems in a file and the student's disk can hold up to 100 files. Press **RETURN** .
4. Type in the **FILENAME** and press **RETURN** . This is the name you wish to give to a particular file of problems. It can be up to 10 characters long and can contain letters and/or numerals. You may wish to make a game of this with the students. FILENAMES may be named after Australian animals, birds, colours, famous people, or bushrangers for example. Alternatively, children may wish to have secret passwords.
5. You will be asked to insert the student's disk and press **RETURN** . This causes that particular file to be saved on the student's disk.
6. Two messages will now appear on the screen:

Press **RETURN** to continue

Press **M** for menu
7. If you wish to make multiple copies of the same problem set, press **RETURN** and you will be returned to *step 4* to repeat the process.
8. If you wish to change the problems and/or the number of problems press **M** and you will be returned to *step 2* .

NOTE: If you wish to return to the *Main Menu* then press **M** again.

3.1.2 Method B - Teacher Generated Problems (option 15)

1. Type **15** and press **RETURN** .
2. Type in **4** from the *File Menu* . This is called 'Create/Edit a file by entering your own addends.' Press **RETURN** .
3. Type a **FILENAME** and press **RETURN** .
4. You will be asked to insert the disk which has the file. When you have done so press **RETURN** .

NOTE: If this is a new file, simply insert student's disk and press **RETURN** . Further reference will be made to this later when you wish to edit a file.

5. From the commands now on the screen select **I** for insert.
6. Begin typing in your addends as in the example. These will appear at the top left of the screen. Press **RETURN** after each problem is typed.
7. No other commands will work until you have pressed **RETURN** when the cursor is on a blank/new line.
8. You may insert up to **10** problems per file with up to five addends of five digits each.

NOTE: When you have finished creating/editing a file, don't forget to **SAVE** it before returning to the *File Menu* .

9. To get back to the *File Menu* , type **Q** and then **Ctrl Q** . To return to the *Main Menu* type **6** and press **RETURN** .

3.2 EDITING A FILE OF PROBLEMS

If you wish to change any of the problems within a file follow procedures 3, 4 and 5 of the previous section. For example, suppose there was a file already existing on a student's disk with **FILENAME** 'Bill'. You wish to add extra problems, erase some of them or just change some of them. To do this follow this procedure:

- Type in the **FILENAME** ('Bill') and press **RETURN** .
- Insert the disk which holds the file ('Bill') and press **RETURN** .
- Using the commands available, you are now able to edit.

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NOTE: If you wish to erase any problem in that file, simply move the cursor Up or Down and press **E** when the cursor rests on the line of that problem. If you wish to insert more problems, use the **I** key as previously mentioned. Don't forget to save the EDITED file before returning to the menu.

3.3 CHECKING FILENAMES ON THE STUDENT DISKS

If you wish to check the number or names of files on a student's disk, simply:

1. Select *option 15* from the *Main Menu* and press **RETURN** .
2. Select *option 3* from the *File Menu* and press **RETURN** .
3. Insert the student's disk and press **RETURN** .
4. You will see a list of files on that disk.
5. When you have finished checking the files, press **RETURN** to return to the *File Menu* .

3.4 HOW TO COPY A FILE

This feature is designed to enable you to copy an existing file onto another student's disk if you so desire.

1. Select *option 15* from the *Main Menu* and press **RETURN** .
2. Select *option 1* from the *File Menu* and press **RETURN** .
3. You will be asked to type in the name of the file to be copied (eg. type in 'Bill'). Press **RETURN** .
4. You will be asked to type in the name of the file to be copied to (eg. type in 'Mary'). Press **RETURN** .
5. Insert the disk which has file ('Bill') and press **RETURN** .
6. Insert the disk which will hold file ('Mary') and press **RETURN** .

NOTE: If the file ('Mary') already exists, you will be asked if you wish to copy over it and thus erase the old file, but keeping the same file name. Multiple copies of the same file with the same **FILENAME** can be made simply by pressing **RETURN** twice each time after changing the student disk. Press **Ctrl Q** at any time to return to the *File Menu* .

3.5 HOW TO DELETE A FILE

This feature is designed to enable you to erase a complete file from a disk if you wish to do so.

Procedures:

1. Select *option 15* from the *Main Menu* and press **RETURN** .
2. Select *option 2* from the *File Menu* and press **RETURN** .
3. Type in the name of the file to be deleted and press **RETURN** .
4. Insert the disk containing the file to be deleted and press **RETURN** .
5. Press **Ctrl** **Q** to return to the *File Menu* .

3.6 TEACHER PRACTICE - *option 14*

Option 14 allows you to enter your own problems independently of either the menu or the file system. This feature has been made available so that the teacher can give individual tuition at the computer to students as needed, when using the menu or the file system would be cumbersome. Some instances when this may happen are:

- whenever individual problems of mixed type are required for the more advanced student or the remedial student
- whenever the teacher wishes to demonstrate mixed types of problems to a group or class
- in any situation where mixed types of problems are required without establishing a file.

Procedure:

1. Select *option 14* and press **RETURN** .
2. Type the number of problems you wish to do and press **RETURN** .
3. Type the mode you wish to employ (1 - 3) and press **RETURN** .
4. Press **RETURN** for your first problem.
5. Type your addends and press **RETURN** after each entry.

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6. When the problem is finished press **RETURN** to continue.
Press the **M** key at any time to get back to the *Main Menu* .

4. ADDITIONAL NOTES

- When you are typing your answer into a problem and you make an error, you can erase it by using the **←** key or the **→** key, typing in the correct number and then pressing **RETURN** .
- Before allowing students to attempt a file, we suggest that they are given an introductory lesson covering the student notes and the running of their files so that they fully understand the running of the program.
- Whenever students are attempting a test, try to ensure that sufficient time is available to them to complete all the problems in the test. When running **PRACTICE** or **TEST** modes, the program will give the students a score (%) based on the number correct. In **PRACTICE** mode the problem is counted as incorrect if the student asks for **HELP** twice at any one step. Two errors at any one step also causes that problem to be counted as incorrect.
- None of the special keys **H** , **S** , **C** , **R** requires a following **RETURN** .

5. SUGGESTED CLASSROOM ACTIVITIES

The idea of these activities is to give students practice in addition.

5.1 ADDITION QUILTS

HOW TO PLAY

Use masking tape to give a value to each quilt and have students keep a tally of their points for each round. If, for example, a student scores with a 1, a 5, and a 3, then the score would be $1 + 5 + 3$ points. As students' addition ability improves, larger values may be given to the quilts. You may like to deduct points for errors in addition. This activity may also be used for multiplication.

5.2 MATHS FISH

HOW TO PLAY

Play the 'Fish' card game, but use different names for the cards. For example, instead of asking, 'Do you have a 6?', the student may ask 'Do you have a $4 + 2$?' and so on. You may restrict the game to one operation (eg. addition) or any other variation desired.

5.3 SPEEDY SHOPPER

HOW TO PLAY

Use any shop catalogue (eg. letter-box variety) and have students count and record the number of items advertised on each page. When they have finished every page, they can then add those totals and find the number of items in the complete catalogue. If you wish, you may time the count and see which student is the quickest and the most accurate.

Notes

Notes

WARRANTY

SPINIFEX Software Pty. Limited cares about the quality of its disks. **SPINIFEX Software** Pty. Limited warrants that its disks are free from defects in material and workmanship. Any disk that proves to be defective because of faulty workmanship or manufacture shall be replaced, if it is returned to **SPINIFEX Software** Pty. Limited of 20 Binda Street, Keiraville, N.S.W., 2500 within thirty(30) days of purchase. **SPINIFEX Software** Pty. Limited does not, however, warrant that any of its software is suitable or fit for any particular purpose or requirement. Accordingly, it is accepted that all purchasers have made their own inquiries as to the suitability of any software or program package prior to the purchase.

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BACKUP POLICY

The program disk of the **SPINIFEX Software** Pty. Limited product you have purchased is copy protected. A backup is not provided in this package. You may, however, obtain a backup copy of the Teacher Disk for \$19.50 and of the Student Disk for \$11.50ea. Proof of purchase of this package is required before any backup disk will be supplied.

Note:

Prices are subject to change without notice.

WARRANTY REGISTRATION CARD APPLE][version

1. Send to:

**SPINIFEX SOFTWARE Pty. Ltd.,
(Warranty/Survey01)
20 BINDA Street,
KEIRAVILLE, N.S.W., 2500
AUSTRALIA**

Thank you for taking the time to give us the information below. The information you give us will help in satisfying your special needs, and facilitate continuous monitoring/refinement of SPINIFEX products.

**Name: _____ (block letters)
Institution: _____
Address: _____
City/Town: _____
State/Postcode: _____**

**Computer Type:
Make _____ (Standalone/Networked-how _____)**

**Where used:
Home/School-school type _____**

**Source of Information and Product:
How did you learn of this product? _____
Where purchased: _____
Date purchased: _____**

**I regularly read or subscribe to:
Incider/Softalk/Australian Apple Review/Others _____**

What do you like most about this package?

You will notice that we always ask students to do one step at a time, all the time, because the packages are designed for use as soon as the particular arithmetic process has been introduced in the classroom. Should we provide a teacher option which permits skipping ahead for even novice students?

Should we allow skipping ahead all the time?

Are there any extensions to the package that you consider desirable?

Are you happy with the style and presentation of the package?

Should further teacher or student resource material be available with the program? If so, what?

Is this package good value for money?

Do you have any suggestions for further software packages from Spinifex Software?

Do you require a backup of the TEACHER/PARENT disk(@\$19.50)?

This is required to generate/modify sets of practice problems.

Package name* : _____ (No. required?____)

Do you require multiple copies of the STUDENT disk?

Each of the multiple STUDENT disk copies comes with the laminated student user reference card, for independent classroom or home use.

First 5 multiple STUDENT disks @\$11.50ea.,thereafter @\$9.00ea.

Package name* : _____ (No. required?____)

I enclose my cheque for \$.....

Signature* :.....

*** Signature and proof of purchase are required for backup or multiple orders.**